Kommerell diverticulum should be removed when operating symptomatic children with right aortic arch and aberrant left subclavian artery (vascular ring).

Caroline Ovaert, Deborah Luciano, Julia Mitchell, Alain Fraisse, Bernard Kreitmann

Background. — Right aortic arch with aberrant left subclavian artery is the most frequent cause of vascular ring. Usual treatment in symptomatic children is ligamentum arteriosus division, leaving the Kommerell diverticulum in place with potential risk of residual compression, aneurysmal dilation and dissection or even rupture. Translocation of the aberrant left subclavian artery to the left carotid artery together with removal of the Kommerell diverticulum and division of the ligamentum through a left thoracotomy is currently advocated to avoid those complications.

Methods and results. — Between 9/2009 and 8/2011, 13 patients underwent above-mentioned procedure. Clinical findings, surgical procedure and complications, histopathological findings and follow-up data were retrospectively analyzed. Mean age at time of surgery was 7.2 years (median 4.3, range 0.9—18.9), mean weight 25 kg (median 18, range 8.4—59). All had respiratory symptoms, associated with dysphagia in five. CT scan and/or MRI had demonstrated the arch anomaly and the dilated Kommerell diverticulum in all. A left postero-lateral thoracotomy was done in all. All had bilateral cerebral oxymetry monitoring. Postoperative complications included transient chylothorax in four and transient phrenic palsy in one patient. Mean follow-up reached 6.6 months (median 1.1, range 0.1—29). Mild residual respiratory symptoms were noted in six patients. Echo-Doppler analysis available in 11 patients showed a patent left subclavian to carotid artery anastomosis. Histopathological analysis of the resected diverticulum, available in six patients, showed cystic medial necrosis and inflammatory tissue in three, borderline cystic medial necrosis in one, hyperplastic myo-intimal lesions in one and nonspecific histological findings in one.

Discussion. — Translocation of the aberrant left subclavian artery together with Kommerell diverticulum resection and ligamentum division is a safe and efficient procedure for symptom relief. The observation of profound wall abnormalities such as medial necrosis in at least 50% of the analyzed diverticuli encourages us to maintain this strategy, in order to reduce the risk of aneurysm formation and dissection.

Is surgical repair of partial atrioventricular septal defect safe and efficient in adulthood?

Philippe Aldebert, Béatrice Bonello, Sylvie Shouvey, Florent Paoli, Caroline Ovaert, François Wernert, Sébastien Hascoët, Loïc Macé, Bernard Kreitmann, Alain Fraisse

Background. — Partial atrioventricular septal defect (PAVSD) is usually operated in childhood with excellent long-term results. However, some patients may present during adulthood and their management as well as their outcome is still unclear. We sought to analyze the clinical characteristics at presentation and the outcome of patients with PAVSD, non-operated or operated during adulthood.

Methods. — Between January 2000 and March 2013, 31 adult patients with PAVSD presented and were followed in our care network. The mean age at study entry was 34 (±16.6) years.

Results. — Dyspnea was the most frequent symptom at presentation in 19 cases (61%). Left atrioventricular valve regurgitation (LAVVR) and right ventricular overload were higher in patients undergoing surgical repair (P = 0.01). Twenty-two patients (71%) had their surgical repair at a mean age of 39.4 (±15.3) year-old with ostium primum closure and partial or complete suture of the left atrioventricular cleft without postoperative death or major complication. There was one late reoperation for a residual shunt. Nine patients (29%) were not operated. After a mean follow-up of 7.4 (±7.1) years, 26 patients (84%) are in NYHA class I or II whereas five (16%) are in NYHA class III or IV. Operated patients have a lower NYHA class (P < 0.01), a lower grade of LAVVR (P = 0.03) and a lower systolic pulmonary artery pressure (P < 0.01) than unoperated patients at last follow-up. The onset or persistence of supraventricular arrhythmias (SWA) after surgery was associated with an older (> 40-year-old)